

## **A RETROSPECTIVE COMPARISON OF ANTIBIOTIC LOCKED LONG TERM TUNNELLED ACCESS AND COMPLEX SURGICAL ACCESS FOR CHRONIC HAEMODIALYSIS**

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**BACKGROUND:** For the majority of patients on long-term haemodialysis, an AV Fistula is the best form of vascular access, reducing the risk of sepsis, whilst providing optimal blood flow. However, a number of individuals require intensive effort and repeated surgery, to deliver access. In other individuals, surgical fashioned access is not possible and long term tunnelled access is the only feasible option. In the era of antibiotic locking of such lines it is unknown whether the relative merits of complex surgical access still outweigh the potential risks inherent in the use of venous catheters.

**METHODS:** The retrospective analysis comprised 13 patients on 'permanent' tunnelled access (TC) and 14 patients with complex fistula or grafts (CVA). The latter group comprised 9 brachio basilic, 1 brachiocephalic with reversed flow, 3 PTFE grafts and 1 thigh AVF. Data on biochemistry, haematology, infections and hospital days over the preceding two years were collated from the departmental database.

**RESULTS:** The TC patients were younger (mean age of  $52.62 \pm 14.13$  years, vs  $68.21 \pm 10.55$ ). Dialysis adequacy was equivalent in both the groups (ID Kt/V TC  $1.21 \pm 0.28$  vs CVA  $1.21 \pm 0.20$ ). There were no differences in haemoglobin, calcium or ESA requirements. Parathyroid hormone and phosphate levels were higher at  $280.38$  pmol/L (range 35-1097) and  $2.02 \pm 0.84$  mmol/L versus  $237$  pmol/L (range 7-507) and  $1.56 \pm 0.30$  mmol/L respectively.

Despite the use of antibiotic locking, the catheter group also had more septic episodes ( $2.40$  [range 0 – 4] vs  $0.31$  [range 0 – 3] ) and higher baseline CRP ( $52.31 \pm 71.33$  vs  $18.29 \pm 22.29$ ). TC had more inpatient spells ( $n=8.08 \pm 8.71$  vs  $5.50 \pm 3.06$ ) and inpatient days ( $36.38 \pm 42.79$  vs  $22.50 \pm 17.85$ ).

**CONCLUSION:** This retrospective study suggests that complex surgical access may still be better in terms of patient morbidity than antibiotic locked tunnelled venous catheters. However a randomised control trial is still required to test this hypothesis.